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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,759	08/19/2003	Hwan-Guem Kim	1349.1249	3013
21171	7590	10/29/2004	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			GLEITZ, RYAN M	
			ART UNIT	PAPER NUMBER
			2852	

DATE MAILED: 10/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/642,759	<b>Applicant(s)</b> KIM ET AL.	
	<b>Examiner</b> Ryan Gleitz	<b>Art Unit</b> 2852	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-38 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,4-13,15 and 17-30 is/are allowed.
- 6) ☒ Claim(s) 31,35,36 and 38 is/are rejected.
- 7) ☒ Claim(s) 3,14,16,32-34 and 37 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION*****Specification***

The use of the trademark TEFLON has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology. Generic terminology is not provided in the specification.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

***Drawings***

The drawings are objected to because figures 1-3 do not include hatching to reflect the materials of the coating layer, inner and outer insulators, the resistance heating body, end cap, and gear cap as disclosed by the specification and claimed. It is recommended that hatching or labels be added to the drawings. See MPEP 608.02.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement

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Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

Claims 3 is objected to because “MICA” should be --mica--.

Claim 14 is objected to because it should end with a period.

Claim 16 is objected to because it contains the trademark/trade name TEFLON. The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe polytetrafluoroethylene and, accordingly, the identification/description is indefinite.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 31 and 38 are rejected under 35 U.S.C. 102(b) as being anticipated by Kawamura et al. (JP 2000-321911).

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Kawamura et al. disclose a fusing roller (fig. 2) of an image forming apparatus comprising: an outer metallic pipe (4); an inner metallic pipe (16) disposed inside the outer metallic pipe (4); a resistance heating body (8) disposed between the outer and the inner metallic pipes, generating a resistance heat (abstract, line 8); an outer insulator (6; [0033]) interposed between the resistance heating body (8) and the outer metallic pipe (4) to transmit the resistance heat to the outer metallic pipe (4); and an inner insulator, thermal break (18), disposed between the resistance heating body (8) and the inner metallic pipe (16).

The outer insulator (6) has a thickness of 5-20 micrometers ([0026]), and the thermal break (18) has a thickness of 100 micrometers ([0029]). Therefore, the inner insulator (18) is thicker than the outer insulator (6).

Regarding claim 38, wherein the resistance heating body (8) can be up to 100 micrometers thick ([0021]), which is approximately 0.1 mm in thickness.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura et al. (JP 2000-321911) in view of Shigenobu (JP 58-016273).

Kawamura et al. disclose the fusing roller above, but do not disclose a resin coating layer.

However, Shigenobu disclose a fusing roller including a metallic pipe (2) that is coated with various resins to form a coating layer (3; abstract, lines 7-10) around the outer circumference of the metallic pipe (2) to prevent swelling.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the fusing roller of Kawamura et al. with the coating layer taught by Shigenobu so that the effect of swelling may be prevented and fixing may be done stably over a long period of time (abstract, lines 16-17).

Claim 36 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawamura et al. (JP 2000-321911) in view of Miyaka (JP 2000-356922).

Kawamura et al. disclose the fusing rollers above including, as shown in figure 2, terminals (24, 26) formed on the insulating tubes ([0029]), which reads on end caps connected to both ends of the outer metallic pipe (4) and electrically connected to the resistance heating body (8).

Kawamura et al. do not disclose a gear on one of the end caps.

However, Miyaka disclose a fusing roller having a gear cap (3) to miniaturize the fixing device.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the fusing roller of Kawamura et al. with the gear taught by Miyaka to miniaturize the fixing device and to maintain desired fixing efficiency without provision of an extra member (abstract, lines 1-2).

***Allowable Subject Matter***

Claims 1, 2, 4-13, 15, and 17-30 are allowed.

Claims 3, 14, and 16 would be allowable if the objections above are overcome.

The following is an examiner's statement of reasons for allowance:

The claims are considered patentable because of the inclusion of the claim limitations, an outer insulator disposed between two metallic pipes has a higher thermal conductivity than an inner insulator disposed between the two metallic pipes, in combination with the other limitations of the claims, that is not taught by or suggested by the prior art of record.

Claims 32-34 and 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hirst et al. (US 6,580,895) disclose a fusing roller having two metallic pipes layered around a heating layer.

Kawamura et al. (JP 2001-265150 and JP 2001-265149) disclose a quick heating fusing roller including a heat resistance layer and two insulating layers.



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***Contact Information***

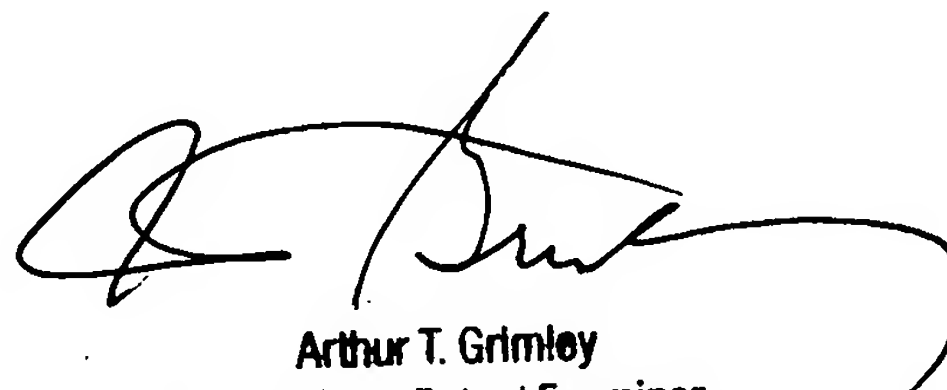
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Gleitz whose telephone number is (571) 272-2134. The examiner can normally be reached on Monday-Friday between 9:00AM and 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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